UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,275	05/16/2002	Masahiro Serizawa	P/ 126-213	3300

7590 07/19/2007

STEVEN I. WEISBURD
DICKSTEIN, SHAPIRO, MORIN & OSHINSKY LLP
1177 AVENUE OF THE AMERICAS
4TH FLOOR
NEW YORK, NY 10036-2714

EXAMINER	
WOZNIAK, JAMES S	
ART UNIT	**PAPER NUMBER**
2626	

MAIL DATE	DELIVERY MODE
07/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/980,275	SERIZAWA ET AL.	
	Examiner	Art Unit	
	James S. Wozniak	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-88* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-88* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 1/29/2007, the applicants have submitted an amendment, filed 4/26/2007, amending independent claims 57-58, 60, 62, and 72-73, while arguing to traverse the art rejection based on the limitations regarding the various ways in which a feature characteristic is smoothed *(Amendment, Pages 29-36)*. Applicants' arguments have been fully considered, however the previous rejection is maintained due to the reasons listed below in the response to arguments.

2. In light of the amendments to claims 74-86 and 88, the examiner has withdrawn the previous objections directed to minor informalities.

3. In response to the applicants' arguments directed to Claims 1-2, 4-6, and 20-21 *(Amendment, Page 26)*, the examiner has withdrawn the previous 35 U.S.C. 101 rejection.

4. In response to the applicants' arguments directed towards claims 34-35, 37, 39, and 49-50 *(Amendment, Page 27)*, the examiner has withdrawn the previous 35 U.S.C. 101 rejection.

Response to Arguments

5. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

The applicants first argue that the amendment of claims 57-58, 60, 62, and 72-73, overcomes the previous 35 U.S.C. 101 rejection *(Amendment, Page 26)*. In response, the examiner notes that these claim amendments do not overcome the previous 35 U.S.C. 101 rejection because the claimed computer program data structure is not claimed as being embodied in a computer readable medium and the claimed "recording medium" is not claimed as being read by a computer *(i.e., claim recites the recording medium being read by a "device") (Data structures not claimed as embodied in computer readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory))*. It is further pointed out that the specification would appear to support the terminology "computer storage medium" that is executed by a "computer" *(Pages 27-28)*. Thus, it is suggested that the aforementioned claims be amended accordingly in order to overcome this 35 U.S.C. 101 rejection.

The applicants next argue that the rejection of claims 1-2, 4, 6, and 20-21 under 35 U.S.C. 112, first paragraph is improper because the claims are not means-plus-function claims, and thus, not single means claims *(Amendment, Page 28)*. In response, the examiner points out

that although the aforementioned claims do not expressly utilize "means for" language, they are nonetheless means-plus-function claims because the "decoding circuit" of claim 1 and the "voice-less part decoding unit" of claims 2, 4, 6, and 20-21 are described in terms of the function they perform rather than in terms of the specific acts that perform the function *(Seal-Flex, Inc. v. Athletic Track and Court Construction, 172 F.3d 836, 850, 50 USPQ2d 1225, 1234 (Fed. Cir.1999) (Radar, J., concurring) ("claim elements without express step-plus-function language may nevertheless fall within 112 6 if they merely claim the underlying function without recitation of acts for performing that function)) (also see MPEP 2181).* Claim 1 recites a "voice-less decoding circuit" (means) for "decoding..." (function) and claims 2, 4, 6, and 20-21 recite a "voice-less part decoding unit" (means) which "changes [or generates]..." (function), thus, the aforementioned claims are in means-plus-function format and accordingly are single means claims.

With respect to **Claims 1, 34, and 57**, the applicants argue that Oshikiri et al *(U.S. Patent: 6,202,046)* fails to teach "smoothing at least one feature parameter representing spectral envelope characteristics." The applicants further argue that Oshikiri only teaches smoothing a gain factor *(Amendment, Pages 29-30).*

In response, the examiner notes that Oshikiri does teach a decoder that smoothes at least one feature parameter representing spectral envelope characteristics. More specifically, the examiner points out that gain is a factor that contributes to spectral shape of a speech signal or is a "feature parameter representing spectral envelope characteristics." As such, the smoothing of a gain as disclosed by Oshikiri *(Col. 20, Lines 7-52)* would constitute the claimed "smoothing at

least one feature parameter representing spectral envelope characteristics." It is additionally noted that the smoothed gain parameters are applied to excitation parameters *(Col. 20, Lines 26-35)*, thereby also effectively smoothing the excitation parameters. Thus, Oshikiri discloses the invention recited in the aforementioned claims.

With respect to **Claims 2, 35, and 58**, the applicants argue that Oshikiri fails to teach changing a coefficient to smooth feature parameters based on an elapsed time from when a transition occurs from a voice to a voiceless period *(Amendment, Pages 30-31)*. The applicants further argue that Oshikiri does not teach these limitations because the hangover processing taught by Oshikiri is not part of a voiceless decoding unit that decodes a speech signal in a voiceless period *(Amendment, Page 31)*.

In response, the examiner notes that the decoder that employs the background noise/speech decision and hangover processing in Oshikiri is a background noise or voiceless period decoder *(part of a decoder demux, Col. 20, Lines 4-14)*. Furthermore, the claim language of claim 2 indicates that a coefficient used to smooth feature parameters changes according to an elapsed time from a transition from a voice to a voiceless period, while claims 35 and 58 recite similar subject matter. Oshikiri discloses a gain parameter that is used to smooth a feature parameter *(Col. 20, Lines 7-52)*. This gain parameter is only changed based on a hangover period *(Col. 16, Lines 8-39)* because the gain of voiceless signals forcibly considered to be speech are unchanged *(Fig. 17)*. After the hangover period *(i.e., based on elapsed time from a transition from voice to voiceless)*, the signal is considered to be background noise, wherein the noise decoder changes the gain and decodes the voiceless period with the smoothed parameter

(Col. 20, Lines 7-52 and Fig. 17), as is required by the claimed invention. Thus, Oshikiri discloses the invention of claims 2, 35, and 58.

The art rejection of **Claims 4, 37, and 60** is traversed for reasons similar to Claims 2, 35, and 58. With regards to these arguments, please see the above response directed to claims 2, 35, and 58.

With respect to **Claims 20-21, 49-50, and 72-73**, the applicants argue that Oshikiri fails to teach that an excitation is composed of a plurality of types of signals and that "the voice-less part decoding unit comprises a weighting coefficient determining which determines a weighting coefficient used in a weighted sum operation of the plurality of types of signals" *(Amendment, Pages 33-34)*. In response, the examiner points out that Oshikiri discloses that an excitation signal is a sum of a plurality of signal types *(Col. 37, Lines 6-23)*. In the noise decoder taught by Oshikiri, the gain or weighting factor is smoothed and applied to this sum of a plurality of signal types. Thus, the step of multiplying the excitation by the smoothed gain *(Fig. 17, Element 409)*, corresponds to the claimed weighted sum operation. Although the applicants further describe the differences between their invention and the decoder taught by Oshikiri in greater detail *(description from specification, Page 34)*, such a specific recitation is not part of the claimed invention. In response to this argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicants rely *(i.e., description from Page 34 of the Amendment)* are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the

claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, due to the broad scope of claims 20-21, 49-50, Oshikiri anticipates the aforementioned limitations.

The art rejection of **Claims 6, 39, and 62** is traversed for reasons similar to Claims 2, 35, and 58. With regards to these arguments, please see the above response directed to claims 2, 35, and 58. Also, it is worth pointing out that Swaminathan et al *(U.S. Patent: 5,537,509)* additionally teach gradually adjusting *(i.e., smoothing)* a weighting factor that changes spectral slope within a voice inactivity *(i.e., voiceless)* period *(Co. 5, Line 47- Col. 6, Line 28)*.

The remaining dependent claims are argued as further limiting rejected independent claims *(Amendment, Pages 31, 33, 35, and 37)*. IN regards to such arguments, please see the above responses for the corresponding independent claims.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 57-73 and 84-88** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 57-58, 60, 62, and 72-73 are drawn to a "program" data structure *per se*, stored on a "recording medium" not claimed as a computer readable medium that is executed by a

computer *(i.e., a claimed program description)*, as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a.

Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. Thus, the aforementioned independent claims contain non-statutory subject matter, as do their associated dependent claims.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. **Claims 1-33** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites "a voice-less decoding circuit for decoding..." but lacks other means that enable the smoothing operation that the unit performs.

Claims 2, 4, 6, and 20-21 recite "a voice-less part decoding unit which changes..." but lacks other means that enable the smoothing operation that the unit performs.

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor *(See MPEP 2164.08(a))*.

Dependent claims 3, 5, 7-19, 22-33 do not remedy the lack of enablement issue noted above with respect to claims 1-2, 4, 6, and 20-21, and therefore, are also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1-5, 7-10, 20-24, 26-30, 32-38, 40-43, 49-53, 55-61, 63-66, and 72-73** are rejected under 35 U.S.C. 102(e) as being anticipated by Oshikiri et al *(U.S. Patent: 6,202,046).*

With respect to **Claims 1, 34, and 57**, Oshikiri discloses:

A voice-less decoding circuit for decoding the speech signals in said voice-less period by smoothing at least one feature parameter representing spectral envelope characteristics, said feature parameter being form the feature parameter being from the feature parameters received in the voice-less period *(smoothing spectral parameters from a classified background noise period at a decoder, Col. 20, Lines 7-52).*

Oshikiri further discloses decoding method implementation as a program stored on a computer readable medium *(Col. 37, Line 50- Col. 8, Line 6).*

With respect to **Claims 2, 35, and 58**, Oshikiri recites:

A voice-less part decoding unit which changes, according to an elapsed time from a time point when a transition occurs from the voice period to the voice-less period, a coefficient used to smooth at least one of the feature parameters, and decodes the speech signal in the voice-less period by smoothing at least one of the feature parameters with the changed coefficient

(performing background noise decoding processing noted with respect to claim 1, according to an elapsed hangover period, Col. 16, Lines 8-39 and Col. 20, Lines 7-52).

Oshikiri further discloses decoding method implementation as a program stored on a computer readable medium *(Col. 37, Line 50- Col. 8, Line 6).*

With respect to **Claims 3, 36, and 59**, Oshikiri discloses:

The voice-less part decoding unit decodes the speech signal by using at least one of the received feature parameters as it is in a time period immediately after changing from the voice period to the voice-less period, and decodes the speech signal by using at least one smoothed feature parameter selected from the feature parameter after the time period *(passing features through smoothing processing during a hangover period and performing smoothing after a hangover period has elapsed, Col. 16, Lines 8-39; Col. 20, Lines 7-52; and Fig. 17).*

With respect to **Claims 4, 37, and 60**, Oshikiri discloses:

A voice-less part decoding unit that changes a value of a coefficient used to smooth at least one of the feature parameters according to the feature parameters, and decodes the speech signal in the voice-less period by smoothing at least one of the feature parameters with the changed value of the coefficient *(calculating a smoothing gain based on received feature parameters in a background noise period and applying the gain to the feature parameters, Col. 20, Line 7- Col. 21, Line 10).*

Oshikiri further discloses decoding method implementation as a program stored on a computer readable medium *(Col. 37, Line 50- Col. 8, Line 6).*

Claims 5, 7, 38, 40, 61, and 63 contain subject matter similar to Claim 3, and thus, are rejected for the same reasons.

Claims 8-9, 41-42, and 64-65 contain subject matter similar to Claims 2 and 3, and thus, is rejected for the same reasons.

With respect to **Claims 10, 43, and 66**, Oshikiri further recites:

The voice-less part decoding unit decodes the speech signal by using at least one of the received feature parameters as it is, in a first time period immediately after changing from the voice period to the voice-less period and in a second time period while the feature parameter satisfies a predetermined condition, and decodes the speech signal by using at least one smoothed feature parameter selected from the feature parameters after the first time period or the second time period is past *(passing features through smoothing processing during a hangover period and a speech period that follows a background noise period; and performing smoothing after a hangover period has elapsed, Col. 16, Lines 8-39; Col. 20, Lines 7-52; and Fig. 17).*

With respect to **Claims 20-21, 49-50, and 72-73**, Oshikiri discloses:

A voice-less part decoding unit which generates signals in the voice-less period by feeding an excitation signal composed of plural types of signal to a synthesis filter in the voice less period *(feature parameters, Col. 10, Lines 7-12; and excitation signals in a background noise period fed to a synthesis filer, Col. 20, Lines 7-52; and Fig. 17, Element 411)*, wherein the voice-less part decoding unit comprises a weighting coefficient determining unit which determines a weighting coefficient used in a weighted sum operation of the plurality of types of signals in the voice-less period according to at least one feature parameter *(smoothing gain decoding and modification and weighting of excitation signals in a background noise period, Col. 20, Lines 7-52; and Figs. 17-18, Elements 407-408; and excitation signal generation*

utilizing an adder, Col. 37, Lines 6-23), and the excitation signal generated by using the weighting coefficient is fed to the synthesis filter *(Col. 20, Lines 7-52; and Fig. 17)*.

Oshikiri further discloses decoding method implementation as a program stored on a computer readable medium *(Col. 37, Line 50- Col. 8, Line 6)*.

With respect to **Claims 22-24, 26-27, 51-53, and 55-56**, Oshikiri further discloses:

The feature parameters include at least one of a quantity representing spectral envelope of the signals to be decoded and a quantity representing power of the signals to be decoded *(speech feature parameters including power and spectral information, Col. 10, Lines 7-12)*.

With respect to **Claims 28-30 and 32-33**, Oshikiri further discloses:

A coding device that determines whether the input signal is in a voice period or in a voice-less period for each frame and encodes the feature parameters of the input signals to output *(encoding means featuring a speech/noise classifier that encodes a classified signal, Col. 19, Lines 29-62)*.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 6, 11-15, 25, 31, 39, 44-48, 54, 62, 67-71** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshikiri et al in view of Swaminathan et al *(U.S. Patent: 5,537,509)*.

With respect to **Claims 6, 39, and 62**, Oshikiri discloses the background noise decoder, as applied to Claims 1 and 34. Oshikiri further discloses decoding method implementation as a program stored on a computer readable medium *(Col. 37, Line 50- Col. 8, Line 6)*. Oshikiri does not specifically suggest the use of information indicative of whether new speech feature parameters are transmitted or not to determine whether a received signal is speech or background noise for a smoothing determination, however, Swaminathan recites a discontinuous transmission (DTX) system that utilizes a voice activity flag, indicative of the presence or absence of new speech features, for such a purpose *(Col. 4, Lines 30-39; and Col. 5, Lines 11-23)*. Swaminathan further discloses that feature parameters in a previous frame are gradually smoothed over time in a following voice inactivity period *(gradual adjustment of a weighting factor that changes spectral shape, Col. 5, Line 47- Col. 6, Line 28)*.

Oshikiri and Swaminathan are analogous art because they are from a similar field of endeavor in speech coding systems utilizing spectral smoothing. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Oshikiri with the voice activity flag taught by Swaminathan in order to provide a means of conveniently indicating the presence of speech features in order to alleviate the annoyance and discomfort to a listener caused by on and off switching artifacts between intermittent periods of voice activity *(Swaminathan, Col. 2, Lines 23-27)*.

Claims 11-12, 44-45, 67-68 contain subject matter similar to Claim 6, and thus, are rejected for the same reasons.

With respect to **Claims 13-15, 46-48, and 69-71**, Swaminathan further recites:

The voiceless part decoding unit receives information representing whether the feature parameters are sent at a sending location *(voice activity flag received at a speech decoder and sent at a transmitter, Col. 4, Lines 30-39; and Col. 5, Lines 11-23).*

With respect to **Claims 25 and 54**, Oshikiri further discloses:

The feature parameters include at least one of a quantity representing spectral envelope of the signals to be decoded and a quantity representing power of the signals to be decoded *(speech feature parameters including power and spectral information, Col. 10, Lines 7-12).*

With respect to **Claim 31**, Oshikiri further discloses:

A coding device that determines whether the input signal is in a voice period or in a voice-less period for each frame and encodes the feature parameters of the input signals to output *(encoding means featuring a speech/noise classifier that encodes a classified signal, Col. 19, Lines 29-62).*

With respect to **Claims 74-88**, Swaminathan further discloses:

Smoothing in a subsequent period is performed even when a new feature parameter is not received *(performing gradual smoothing over time as voice inactivity continues for the benefit of alleviate the feeling of artificiality during long periods of voice inactivity, Col. 5, Line 47- Col. 6, Line 28; and Col. 7, Lines 8-10).*

14. **Claims 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshikiri et al in view of Swaminathan et al and further in view of Jarvinen et al *(U.S. Patent: 5,960,389).*

With respect to **Claims 16-18**, Oshikiri in view of Swaminathan discloses the background noise decoder as applied to Claims 1-2 and 4. Oshikiri does not specifically suggest

that when a length of a voice period immediately before a first voice-less period is shorter than a predetermined length, a value of a feature parameter which is finally transmitted in a second voice-less period immediately before the voice period is used as an initial value of smoothing. Jarvinen, however recites utilizing a previous noise parameter for smoothing upon the occurrence of a short speech burst *(Col. 21, Lines 16-35; Col. 15, Lines 19-46; and Col. 2, Lines 28-43).*

Oshikiri and Jarvinen are analogous art because they are from a similar field of endeavor in speech coding systems utilizing spectral smoothing. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Oshikiri with the concept of addressing a short speech burst taught by Jarvinen in order to prevent a speech burst from being misinterpreted as a background noise spike *(Jarvinen, Col. 14, Line 60- Col. 15, Line 3).*

15. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Oshikiri et al in view of Swaminathan et al and further in view of Jarvinen et al *(U.S. Patent: 5,960,389).*

With respect to **Claim 19**, Oshikiri in view of Swaminathan discloses the background noise decoder, utilizing a voice activity flag as applied to Claim 6. Oshikiri in view of Swaminathan does not specifically suggest that when a length of a voice period immediately before a first voice-less period is shorter than a predetermined length, a value of a feature parameter which is finally transmitted in a second voice-less period immediately before the voice period is used as an initial value of smoothing. Jarvinen, however recites utilizing a previous

noise parameter for smoothing upon the occurrence of a short speech burst *(Col. 21, Lines 16-35; Col. 15, Lines 19-46; and Col. 2, Lines 28-43).*

Oshikiri, Swaminathan, and Jarvinen are analogous art because they are from a similar field of endeavor in speech coding systems utilizing spectral smoothing. Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the teachings of Oshikiri in view of Swaminathan with the concept of addressing a short speech burst taught by Jarvinen in order to prevent a speech burst from being misinterpreted as a background noise spike *(Jarvinen, Col. 14, Line 60- Col. 15, Line 3).*

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
6/28/2007

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER